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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,322	07/19/2003	Marion Calmer	USPA0018	3279

33512 7590 04/21/2004

LAW OFFICE OF JAY R. HAMILTON, PLC
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DAVENPORT, IA 52807

EXAMINER

TORRES, ALICIA M

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,322

Applicant(s)

CALMER, MARION

Examiner

Alicia M Torres

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: there is lack of terminology in the specification for the "hardened material" claimed. Applicant hasn't provided specifics on the character of the hard material, what it is hard in relation to, or how the penetration point is composed of a hardened material.

3. The disclosure is objected to because of the following informalities:

reference numbers 130 and 140 are not included in both Figures 6A and 8 as specified in lines 7-9, page 15.

Appropriate correction is required.

Claim Objections

4. Claims 1, 2, 11 and 20 are objected to because of the following informalities:
“compromising” should be changed to –comprising—in line 1 of claims 1, 2 and 11 and in line 2, claim 20. Appropriate correction is required.

DETAILED ACTION

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

6. Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Sutton.

Sutton discloses the device wherein the following method of engaging corn plants with a corn head row unit is inherent, the method comprising the steps of:

- a. engaging the corn plant with a plurality of rotation elements (40),
- b. pinching the corn plant between the rotational elements (40),
- c. penetrating the corn plant stalk with the rotational elements (40) a pre-determined penetration depth, wherein the pre-determined penetration depth of each of the rotational elements (40) is less than half the diameter of the corn plant stalk,
- d. pulling the corn plant stalk with the rotational elements (40),
- e. the penetrating, pinching and pulling steps repeatedly lacerating the corn plant stalk along its length and width; and,

f. separating the corn plant ear from the corn plant stalk and husk.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 6 and 7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell in view of Lundahl et al., hereafter Lundahl.

9. In regards to claim 1, Russell discloses an improved separation element of a corn head row unit comprising:

- a. a source of power (22) for rotation,
- b. at least two opposing stalk rolls (10, 12) connected to the power source (22),
- c. the stalk rolls (10, 12) having at least one flute (76),
- d. the flute (76) having at least one penetration point (78).

However, Russell fails to disclose wherein the penetration point is composed of hardened material.

Lundahl discloses a cutting edge for cutting crop wherein the penetration point is composed of hardened material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use hardened material as taught by Lundahl on the flute of Russell in order to improve wear and self-sharpening characteristics.

Art Unit: 3671

10. In regards to claims 2, 3, 6, 7 and 9, Russell discloses an improved separation element of a corn head row unit comprising:

- a. a source of power (22) for rotation,
- b. at least two opposing stalk rolls (10, 12) connected to the power source (22),
- c. the stalk rolls (10, 12) having at least one flute (76),
- d. the flute (76) having a knife edge (78), as per claim 2; and

wherein the knife edge (78) has a predetermined surface slope, as per claim 3; and

wherein the opposing flutes (76) are tapered, as per claim 6; and

wherein the opposing flutes (76) intermesh, as per claim 7; and

wherein the opposing flutes (76, 80) surfaces have a plurality of radii along the length of the stalk roll, as per claim 9.

However, Russell fails to disclose wherein the entire knife edge is composed of hardened material, as per claim 2.

Lundahl discloses a cutting edge for cutting crop wherein the penetration point is composed of hardened material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use hardened material as taught by Lundahl on the flute of Russell in order to improve wear and self-sharpening characteristics.

11. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell and Lundahl as applied to claim 3 above, and further in view of Calmer.

The device is disclosed as applied to claim 3 above. However, the combination fails to disclose wherein the knife edges have a forward slope relative to the direction of rotation of each of the stalk rolls, as per claim 4; and

Wherein the knife edges of opposing flutes have a predetermined surface slope and the angle of the slopes of opposing flutes are identical, as per claim 5.

Calmer discloses a similar stalk roll wherein the knife edges (14a) have a forward slope relative to the direction of rotation of each of the stalk rolls (14), as per claim 13; and

Wherein the knife edges (14a) have a predetermined surface slope and the angle of the slopes of opposing flutes are identical, as per claim 14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the knife edges of Calmer on the device of Russell and Lundahl as is known in the prior art.

12. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell and Lundahl as applied to claim 2 above, and further in view of Sutton.

The device is disclosed as applied to claim 2 above. However, the combination fails to disclose wherein the radius of the opposing flute surfaces is reduced in discrete increments along the length of the stalk roll, as per claim 8; and

Wherein the radius of the leading edge of the flute is less than the trailing edge of the flute in relation to the direction of rotation of the stalk roll, as per claim 10.

Sutton discloses a similar stalk roll wherein the radius of the opposing flute surfaces (45) is reduced in discrete increments along the length of the stalk roll (40), as per claim 8; and

Wherein the radius of the leading edge of the flute (45) is less than the trailing edge of the flute (45) in relation to the direction of rotation of the stalk roll (40), as per claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the change in flute radius of Sutton on the stalk roll of Russell and Lundahl in order to minimize damage to and bruising of the ear.

13. Claims 11, 12 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton in view of Lundahl.

Sutton discloses an improved separation element of a corn head row unit comprising:

- a. a source of power (unnumbered) for rotation,
 - b. at least two opposing stalk rolls (40) connected to the power source,
 - c. each of the stalk rolls (40) having at least one flute (45) wherein the flutes (45) are opposite each other,
 - d. the flutes (45) having a knife edge (46), as per claim 11; and
- wherein the distance between the opposing flutes (45) decreases along the length of the stalk rolls (40), as per claim 12;
- wherein the radius of the opposing flute surfaces (45) is reduced in discrete increments along the length of the stalk roll (40), as per claim 15; and
- wherein the opposing flutes surfaces (45) have a plurality of radii along the length of the stalk roll (40), as per claim 16;
- wherein the radius of the leading edge of the flute (45) is less than the trailing edge of the flute (45) in relation to the direction of rotation of the stalk roll (40), as per claim 17; and

wherein the opposing flutes (45) are substantially in the shape of a trapezoid, as per claim 18; and

wherein a substantially trapezoidal shaped void created is between the opposing flutes (45) when opposite each, as per claim 19.

However, Sutton fails to disclose wherein the entire knife edge is composed of hardened material, as per claim 11.

Lundahl discloses a cutting edge for cutting crop wherein the penetration point is composed of hardened material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use hardened material as taught by Lundahl on the flute of Sutton in order to improve wear and self-sharpening characteristics.

14. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton and Lundahl as applied to claim 12 above, and further in view of Calmer.

The device is disclosed as applied above. However, the combination fails to disclose wherein the knife edges have a forward slope in relation to the direction of rotation of the stalk rolls, as per claim 13; and

Wherein the knife edge has a predetermined surface slope per stalk roll and the angles of the slopes are identical, as per claim 14.

Calmer discloses a similar stalk roll wherein the knife edges (14a) have a forward slope in relation to the direction of rotation of the stalk rolls (14), as per claim 13; and

Wherein the knife edge (14a) has a predetermined surface slope per stalk roll (14) and the angles of the slopes are identical, as per claim 14.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the knife edges of Calmer on the device of Sutton and Lundahl as is known in the prior art.

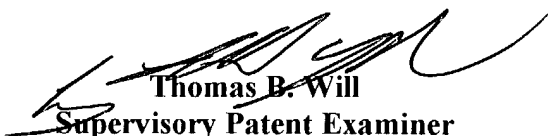
Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Spry, Pucher, and Erickson have been cited as of interest.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Torres whose telephone number is 703-305-6953. The examiner can normally be reached Monday through Thursday from 7:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at 703-308-3870.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-1113. The fax number for this Group is 703-872-9306.


Thomas B. Will
Supervisory Patent Examiner
Group Art Unit 3671

AMT
April 12, 2004